MPI problem with LIS/Noah 2.7.1 ...

jonc 33 posts since

Sep 20, 2007 Dear LIS developers,

I'd like to point out an MPI problem I've encountered since the Discover cluster upgrade happened, as well as since I updated my version of LISon 18 July. Since both events occurred around the same time, I don't know how to isolate whether the OS upgrade or the LIS upgrade led to the problems I'm encountering. The last LIS version I had that ran successfully was from April.

In a nutshell, the rainfall forcing is blowing up in most (but not all) processor configurations, resulting in blow-ups of the snow depth as well during winter. Interestingly, LIS/Noah continues plugging along, oblivious to a standard deviation of Infinity, or maximum rainfall forcings over 10**10 (or more in some instances).

I'm running over most of the CONUS, including parts of Southern Canada and northern Mexico. I've identified some bad pixels in my previous post on GDAS elevation correction, which I don't think it the cause of the problem anymore, since I ran all these tests recently WITHOUT GDAS elevation correction on my Lambert projection.

Finally, for those interested, I have a variety of NOAHstats files located in:

/home/jonc/LIS_WRF/WRF/lis5/OUTPUT/EXPNSL_GDAS_ELEV (note: elevation correction WAS turned OFF, I'm just using this as a working directory right now)

The only processor configurations that have reasonable rainfall forcing stats are 1x4, 2x4, and 4x4. All others listed have unrealistic Rainfforc.

FYI, I have the latest ESMF libraries in configure.lis, and am using the following modules:

1) comp/intel-10.1.017 2) mpi/scali-5 3) lib/mkl-10.0.3.020 4) tool/tview-8.2.0.1

LIB_ESMF = /discover/nobackup/projects/lis/esmf_2_2_2rp3_intel_10_1_017/lib/libO/Linux.intel.64.mpi.default

MOD_ESMF = /discover/nobackup/projects/lis/esmf_2_2_2rp3_intel_10_1_017/mod/modO/Linux.intel.64.mpi.default

Please let me know if anyone has suggestions.

Jonathan Tags: lis, discover, mpi, error